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<110> Vogeli, Gabriel  
Wood, Linda S.  
Merchant, Kalpana

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Tyr	Thr	Met	Ile	Ile	Leu	Thr	Leu	Leu	Lys	Lys	Ser	Met	Lys	Lys	Asn	
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Val Gly Ile Trp Ile Phe Val Ile Leu Thr Ser Ser Pro Phe Leu Met
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Ala Pro Ile Leu Ala Leu Glu Phe Val Leu Gly Leu Val Gly Asn Ser	
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 Ala Ala Asp Phe Leu Leu Ile Ser Asn Leu Pro Leu Arg Val Asp Tyr  
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 Tyr Leu Leu His Glu Thr Trp Arg Phe Gly Ala Ala Ala Cys Lys Val  
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 Asn Leu Phe Met Leu Ser Thr Asn Arg Thr Ala Ser Val Val Phe Leu  
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 145 150 155 160  
 Val Leu Ser Arg Ala Ser Val Gly Ala Ala Ala Arg Val Ala Gly Gly  
 165 170 175  
 Leu Trp Val Gly Ile Leu Leu Leu Asn Gly His Leu Leu Leu Ser Thr  
 180 185 190  
 Phe Ser Gly Pro Ser Cys Leu Ser Tyr Arg Val Gly Thr Lys Pro Ser  
 195 200 205  
 Ala Ser Leu Arg Trp His Gln Ala Leu Tyr Leu Leu Glu Phe Phe Leu  
 210 215 220  
 Pro Leu Ala Leu Ile Leu Phe Ala Ile Val Ser Ile Gly Leu Thr Ile  
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 Arg Asn Arg Gly Leu Gly Gly Gln Ala Gly Pro Gln Arg Ala Met Arg  
 245 250 255  
 Val Leu Ala Met Val Val Ala Val Tyr Thr Ile Cys Phe Leu Pro Ser  
 260 265 270  
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 Arg Ser Leu Asp Leu Cys Thr Gln Leu Phe His Gly Ser Leu Ala Phe  
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Arg	Gln	Gly	Pro	Val	Ser	Asp	Glu	Ser	Ser	Tyr	Gln	Pro	Ser	Arg	Gln
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Trp	Arg	Tyr	Arg	Glu	Ala	Ser	Arg	Lys	Ala	Glu	Ala	Ile	Gly	Lys	Leu
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 Met Asn Thr Thr Val Met Gln Gly Phe  
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 Asn Arg Ser Glu Arg Cys Pro Arg Asp Thr Arg Ile Val Gln Leu Val  
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 Phe Pro Ala Leu Tyr Thr Val Val Phe Leu Thr Gly Ile Leu Leu Asn  
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 act ttg gct ctg tgg gtg ttt gtt cac atc ccc agc tcc tcc acc ttc 316  
 Thr Leu Ala Leu Trp Val Phe Val His Ile Pro Ser Ser Ser Thr Phe  
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 Ile Ile Tyr Leu Lys Asn Thr Leu Val Ala Asp Leu Ile Met Thr Leu  
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 Met Leu Pro Phe Lys Ile Leu Ser Asp Ser His Leu Ala Pro Trp Gln  
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 Leu Arg Ala Phe Val Cys Arg Phe Ser Ser Val Ile Phe Tyr Glu Thr  
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 atg tat gtg ggc atc gtg ctg tta ggg ctg ata gcc ttt gac aga ttc 508  
 Met Tyr Val Gly Ile Val Leu Leu Gly Leu Ile Ala Phe Asp Arg Phe  
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Phe	Ala	Lys	Thr	Val	Ser	Ile	Phe	Ile	Trp	Val	Phe	Leu	Val	Phe	Ile	
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Gln	Met	Val	Asn	Asn	Ile	Cys	Gln	Phe	Ile	Phe	Trp	Thr	Gly	Phe	Ile	
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Leu	Met	Leu	Val	Phe	Tyr	Val	Val	Ile	Ala	Lys	Lys	Val	Tyr	Asp	Ser	
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Tyr	Arg	Lys	Ser	Lys	Ser	Lys	Asp	Arg	Lys	Asn	Asn	Lys	Lys	Leu	Glu	
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Gly	Lys	Val	Phe	Val	Val	Val	Ala	Val	Phe	Phe	Val	Cys	Phe	Ala	Pro	
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Phe	His	Phe	Ala	Arg	Val	Pro	Tyr	Thr	His	Ser	Gln	Thr	Asn	Asn	Lys	
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act	gac	tgt	aga	ctg	caa	aat	caa	ctg	ttt	att	gct	aaa	gaa	aca	act	988
Thr	Asp	Cys	Arg	Leu	Gln	Asn	Gln	Leu	Phe	Ile	Ala	Lys	Glu	Thr	Thr	
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Leu	Phe	Leu	Ala	Ala	Thr	Asn	Ile	Cys	Met	Asp	Pro	Leu	Ile	Tyr	Ile	
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Phe	Leu	Cys	Lys	Lys	Phe	Thr	Glu	Lys	Leu	Pro	Cys	Met	Gln	Gly	Arg	
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Phe Ser Ser Val Ile Phe Tyr Glu Thr Met Tyr Val Gly Ile Val Leu  
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Phe Ile Trp Val Phe Leu Val Phe Ile Ser Leu Pro Asn Met Ile Leu  
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Ser Asn Lys Glu Ala Thr Pro Ser Ser Val Lys Lys Cys Ala Ser Leu  
165 170 175  
Lys Gly Pro Leu Gly Leu Lys Trp His Gln Met Val Asn Asn Ile Cys  
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Gln Phe Ile Phe Trp Thr Gly Phe Ile Leu Met Leu Val Phe Tyr Val  
195 200 205  
Val Ile Ala Lys Lys Val Tyr Asp Ser Tyr Arg Lys Ser Lys Ser Lys  
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225 230 235 240  
Ala Val Phe Phe Val Cys Phe Ala Pro Phe His Phe Ala Arg Val Pro  
245 250 255  
Tyr Thr His Ser Gln Thr Asn Asn Lys Thr Asp Cys Arg Leu Gln Asn  
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Pro	Leu	Cys	Ser	Leu	Tyr	Leu	Ile	Ala	Val	Leu	Gly	Asn	Leu	Thr	Ile		
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Ile	Tyr	Ile	Val	Arg	Thr	Glu	His	Ser	Leu	His	Glu	Pro	Met	Tyr	Ile		
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Met	Pro	Lys	Met	Leu	Ala	Ile	Phe	Trp	Phe	Asn	Ser	Thr	Thr	Ile	Gln		
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Phe	Asp	Ala	Cys	Leu	Leu	Gln	Met	Phe	Ala	Ile	His	Ser	Leu	Ser	Gly		
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Met	Glu	Ser	Thr	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala		
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Ile	Cys	His	Pro	Leu	Arg	His	Ala	Thr	Val	Leu	Thr	Leu	Pro	Arg	Val		
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Thr	Lys	Ile	Gly	Val	Ala	Ala	Val	Val	Arg	Gly	Ala	Ala	Leu	Met	Ala		
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Pro	Leu	Pro	Val	Phe	Ile	Lys	Gln	Leu	Pro	Phe	Cys	Arg	Ser	Asn	Ile		
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Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala  
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Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val  
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Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala  
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Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile  
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Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys  
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Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser  
195 200 205

Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile  
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Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe  
225 230 235 240

Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro  
245 250 255

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser  
260 265 270

Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val  
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Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg  
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Met	Leu	Val	Asp	Phe	Leu	Ser	Ala	Lys	Lys	Ile	Ile	Ser	Tyr	Arg	Gly	
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Cys	Ile	Thr	Gln	Leu	Phe	Phe	Leu	His	Phe	Leu	Gly	Gly	Gly	Glu	Gly	
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Pro	Leu	His	Tyr	Pro	Thr	Val	Met	Asn	Pro	Arg	Thr	Cys	Tyr	Ala	Met	
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Met	Leu	Ala	Leu	Trp	Leu	Gly	Gly	Phe	Val	His	Ser	Ile	Ile	Gln	Val	
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Val	Leu	Ile	Leu	Arg	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Gln	Leu	Asp	Asn	
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Phe	Phe	Cys	Asp	Val	Pro	Gln	Val	Ile	Lys	Leu	Ala	Cys	Thr	Asp	Thr	
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Leu	Cys	Phe	Leu	Gly	Leu	Leu	Ala	Ser	Tyr	Ala	Val	Ile	Leu	Cys	Arg	
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Ile	Tyr	Thr	Arg	Pro	Phe	Arg	Ala	Phe	Pro	Ala	Asp	Lys	Val	Val	Ser	
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995

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Cys	Ile	Thr	Gln	Leu	Phe	Phe	Leu	His	Phe	Leu	Gly	Gly	Gly	Glu	Gly	
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Pro	Leu	His	Tyr	Pro	Thr	Val	Met	Asn	Pro	Arg	Thr	Cys	Tyr	Ala	Met	
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75 80 85

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Lys Thr Leu His Arg Ala Pro Tyr Tyr Phe Leu Leu Asp Leu Cys Cys  
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Ser Asp Ile Leu Arg Ser Ala Ile Cys Phe Pro Phe Val Phe Asn Ser  
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Val Lys Asn Gly Ser Thr Trp Thr Tyr Gly Thr Leu Thr Cys Lys Val  
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Ile Ala Phe Leu Gly Val Leu Ser Cys Phe His Thr Ala Phe Met Leu  
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Phe Cys Ile Ser Val Thr Arg Tyr Leu Ala Ile Ala His His Arg Phe  
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Tyr Thr Lys Arg Leu Thr Phe Trp Thr Cys Leu Ala Val Ile Cys Met  
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Val Trp Thr Leu Ser Val Ala Met Ala Phe Pro Pro Val Leu Asp Val  
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Asn Gln Val Lys Lys Glu Met Ile Leu Ala Lys Arg Phe Phe Phe Ile	
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Asn Tyr Arg Gln Arg Lys Ser Met Asp Ser Lys Gly Gln Lys Thr Tyr	
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Val Phe Val Trp Val Val Ser Ala Val Thr Cys Phe Gly Asn Ile Phe  
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Val Ile Cys Met Arg Pro Tyr Ile Arg Ser Glu Asn Lys Leu Tyr Ala  
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Lys His Ala Gln Leu Trp Met Glu Ser Thr His Cys Gln Leu Val Gly  
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Thr Gly Phe Ile Val Ala Phe Ile Pro Leu Ser Asn Lys Glu Phe Phe  
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 Pro Gly Lys Asn Thr Thr Leu His Asn Glu Phe Asp Thr Ile Val Leu  
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 Pro Val Leu Tyr Leu Ile Ile Phe Val Ala Ser Ile Leu Leu Asn Gly  
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 Phe Tyr Leu Lys Asn Ile Val Val Ala Asp Leu Ile Met Thr Leu Thr  
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Pro Leu Asn Ala Leu Ala Leu Trp Val Phe Leu Arg Ala Leu Arg Val
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His Ser Val Val Ser Val Tyr Met Cys Asn Leu Ala Ala Ser Asp Leu
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Leu Phe Thr Leu Ser Leu Pro Val Arg Leu Ser Tyr Tyr Ala Leu His
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cac tgg ccc ttc ccc gac ctc ctg tgc cag acg acg ggc gcc atc ttc 344
His Trp Pro Phe Pro Asp Leu Leu Cys Gln Thr Thr Gly Ala Ile Phe
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Gln Met Asn Met Tyr Gly Ser Cys Ile Phe Leu Met Leu Ile Asn Val
105 110 115

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<211> 372

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<223> Description of Artificial Sequence: Primer LW1282

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32

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<210> 25  
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<400> 26
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<210> 28
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23

<210> 30
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<400> 30
aagcataaca tggatgaaac aggaaatctg
30

<210> 31
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<400> 31
aagcataact atactttaca tattttcttc
29

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<210> 32  
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<400> 32  
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<210> 33  
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<400> 33  
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<210> 34  
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<400> 34  
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<210> 35  
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<400> 36  
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<223> Description of Artificial Sequence: Primer LW1377

<400> 37

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29

<210> 38

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<223> Description of Artificial Sequence: Primer LW1387

<400> 38

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41

<210> 39

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<223> Description of Artificial Sequence: Primer LW1388

<400> 39

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41

<210> 40

<211> 30

<212> DNA

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<223> Description of Artificial Sequence: Primer LW1314

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<210> 41

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<223> Description of Artificial Sequence: Primer LW1315

<400> 41

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<210> 42

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<223> Description of Artificial Sequence: Primer LW1326

gcatgaattc atgatgggtgg atcccaatgg

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<211> 27.

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<223> Description of Artificial Sequence: Primer LW1327

gcatctcgag cctagggctc tgaagcg

27

<211> 42

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42

<211> 42

<212> DNA

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<223> Description of Artificial Sequence: Primer LW1416

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42

<211> 30

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<223> Description of Artificial Sequence: Primer LW1309

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<210> 48  
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<223> Description of Artificial Sequence: Primer LW1324

<400> 48  
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27

<210> 49  
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<400> 49  
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35

<210> 50  
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<400> 50  
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29

<210> 51  
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<400> 52  
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<210> 53  
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22

<210> 54  
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<400> 54  
agctatggcg aactatagcc atgcagc

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<210> 55  
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<220>  
<223> Description of Artificial Sequence: Primer LW148

<400> 55  
agtcctcata taacacagta aggttcc

27

<210> 56  
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<400> 56  
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<210> 57  
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<400> 57  
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29

<210> 58  
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<212> DNA  
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<220>  
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<400> 58  
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<210> 59  
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<223> Description of Artificial Sequence: Primer LW1443

<400> 59  
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<210> 60  
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<223> Description of Artificial Sequence: Primer LW1440

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<210> 61  
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<220>  
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<400> 62  
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<210> 63  
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<212> DNA  
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<220>

<223> Description of Artificial Sequence: Primer LW1473

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31

<210> 64

<211> 29

<212> DNA

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<223> Description of Artificial Sequence: Primer LW1411

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<210> 65

<211> 29

<212> DNA

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<223> Description of Artificial Sequence: Primer LW1412

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<210> 66

<211> 30

<212> DNA

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<223> Description of Artificial Sequence: Primer LW1448

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<210> 67

<211> 29

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<400> 67

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<210> 68

<211> 43

<212> DNA



<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer 217A

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43

<210> 69

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer 217B

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52

<210> 70

<211> 20

<212> DNA

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<220>

<223> Description of Artificial Sequence: Primer LW1480

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20

<210> 71

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer LW1481

<400> 71

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20

<210> 72

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer CON103a

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42

<210> 73

<211> 44

<212> DNA

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<220>

<223> Description of Artificial Sequence: Primer CON103b

<400> 73

44

<220>  
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18

<220>  
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18

[illegible]